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ABSTRACT

This guide presents ways for practitioners to use Chapter 1 achievement data to better understand and evaluate elements of a Chapter 1 program. A variety of types and levels of questions can be addressed with achievement data. Combining standardized achievement test scores with data from the program and from the regular classroom greatly increases the range of questions that can be answered. Full group data allow evaluation of: (1) how program results compare to district, state, or national results in each subject area; (2) what the long-term effects of the Chapter 1 program are; (3) how the standardized test results compare to performance on program criterion measures; and (4) what the trends in achievement over time for each cohort are. Subgroup data allow the determination of the relative gains for students at different levels, and assessment of how students who exit the program compare with those who remain. Individual data can provide insights into how to deal with students who do not seem to progress. Case study analysis can reveal much about the achievement of individuals. Data are generally collected with a specific purpose, but this guide shows ways in which additional questions and hypotheses can be examined. Five graphs and three tables present the study results. (SLD)

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Profiling Chapter 1 Achievement Data

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PROFILING CHAPTER 1 ACHIEVEMENT DATA

In this short guide you will find examples of ways you can use your Chapter 1 achievement data to help you better understand and evaluate some elements of your program. Data are generally collected with a specific purpose in mind, stated as a research question or statement of hypothesis. However, once the data are collected and examined, additional questions or hypotheses may arise. These examples represent only some of the possible ways you could look at your data and are meant to help stimulate ideas of your own.

This guide does not include information about how to *select your instruments*, or *display* or *interpret* data. For help with those tasks, see the *"Guide for Selecting Instruments for Profiling,"* the *"Guide for Reporting and/or Presenting Profile Data,"* and the *"Guide for Interpreting Profile Data."* In addition, you will find helpful information on how to formulate questions and design your profile in the *"Guide for Determining the Profile Purpose."*

Sources of Data

A variety of types and levels of questions can be addressed with achievement data. Some questions will require analysis of averages for the full group or a subgroup, and some questions will best be answered by a case study approach. Full group averages focus attention on trends in achievement for the entire program. Subgroup averages show patterns for groups of students with common characteristics (such as level of pretest score) that may be hidden by whole group averages. Case studies can provide insights into program impact by taking an indepth look at a few individuals (i.e. students progressing at a slower rate than most of the others, or students who progress faster with different instructional methods).

The range of questions you can answer will depend on how many sources of data you have. By combining standardized achievement test scores with data from the program and from the regular classroom such as class grades, number of objectives mastered, GPA, and scores on program-based criterion measures, you can learn much more. Standardized test scores by themselves are not a real reliable source of information, especially if your group is small. However, when combined with other sources of information, they are an adequate source of information. As a general rule, the more sources of information you can get to answer a particular question, the more confidence you can have in your conclusions.

Examples of Profiling Achievement Data

Full Group Data

Using group data as it is from the annual Chapter 1 report, you could answer questions like the following:

- How do the program results compare overall to district, state, or national results in each subject area (see Figs. 1 and 2)?
- What are the long term effects of the Chapter 1 program (see Fig. 3)?

The line graph in Figure 1 shows that in reading, the district exceeds both the state and the nation in almost all grades. Figure 2 shows that the district is performing slightly below the state in math, but still above the nation at most grade levels.

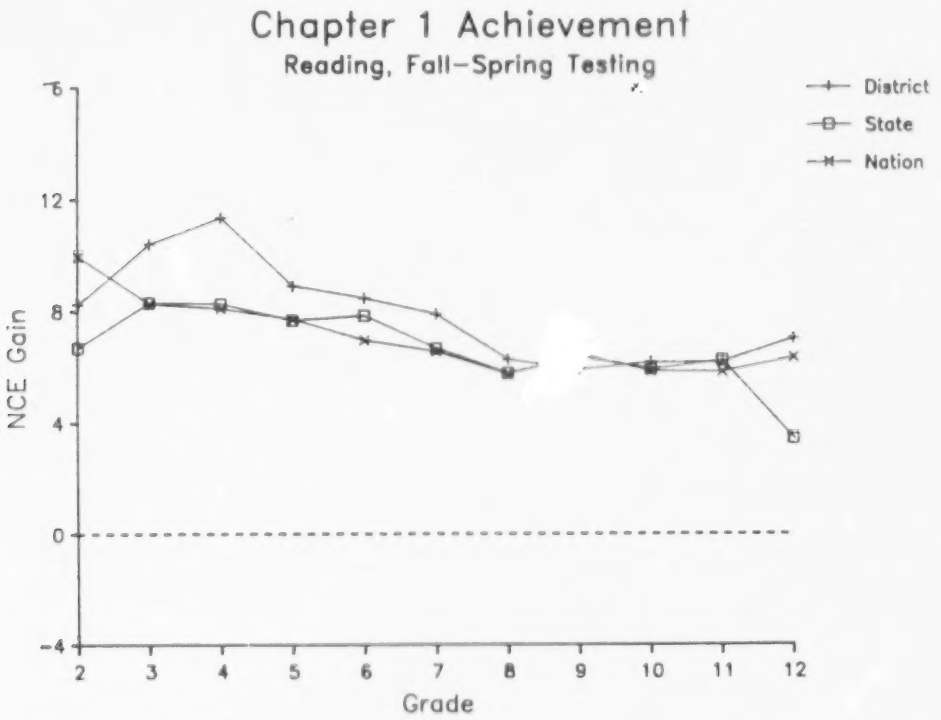

Figure 1. Trends in reading achievement for the district, state, and the nation on a fall to spring testing cycle.

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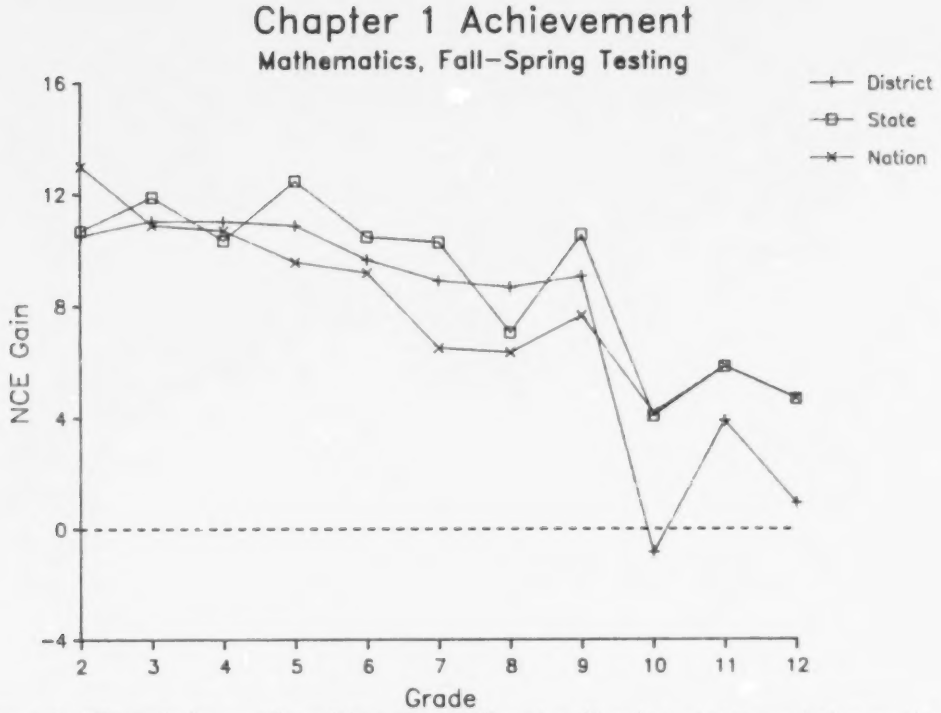

Figure 2. Trends in math achievement for the district, state, and the nation on a fall to spring testing cycle.

The bar graph in Figure 3 shows grades 2-10 gains in Chapter 1 reading for school years 1983/84 through 1985/86. Note that the fluctuation in the size of the gains within grades is relatively small, and that gains are much larger in the early grades than in the later grades.

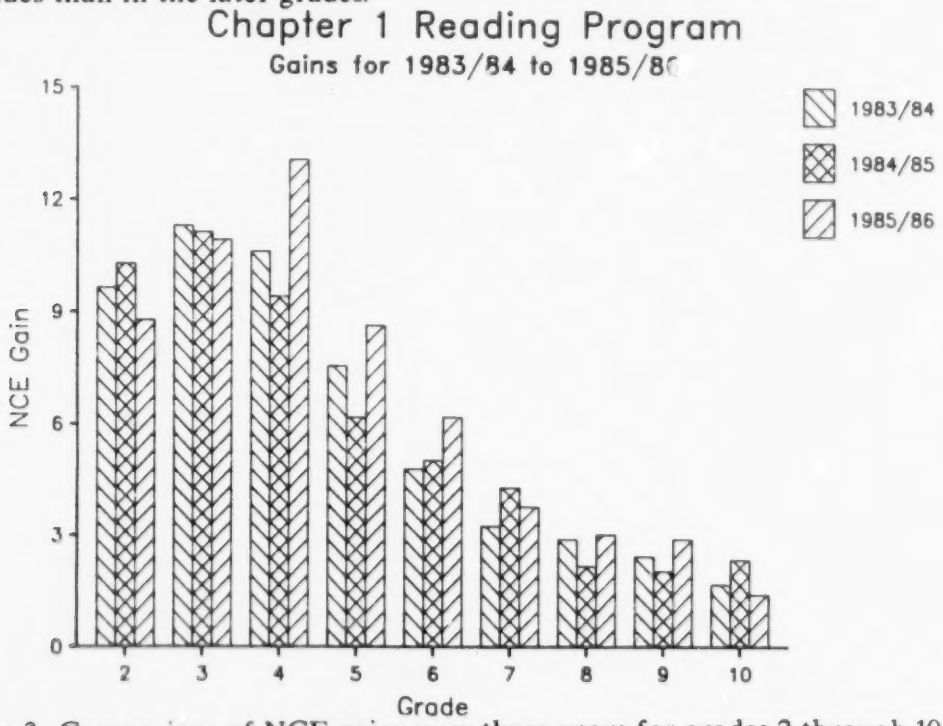

Figure 3. Comparison of NCE gains over three years for grades 2 through 10.

With data from your Chapter 1 annual report combined with some additional data from the district or from classroom teachers, you could address questions such as:

- How do the standardized test results compare to student performance in the program–i.e. performance on program criterion measures (see Table 1)?
- What are the trends in achievement over time for each cohort (graduating class) (see Table 2)?

Table 1 shows essentially two pretest-posttest comparisons of Chapter 1 students' performance. In the first three columns are the pretest and posttest scores and NCE gains for each grade, and in the last two columns you'll find the average grade (from a 61 which represents failing grade to a 78 which represents a C) from the first grade reporting period in the fall and the last grade reporting period in the spring. The extent to which the gains are parallel suggests that the Chapter 1 program is affecting both the general achievement level of students and performance in the regular school program. The small gain or loss in grades compared to a relatively large gain in achievement in grades 3 and 4 is a finding that needs further investigation.

NCE Gains and Gains in Class Grades for Grades 2 Through 8

Grade	NCE score			Grade	
	Pre	Post	Gain	Pre	Post
2	28	35	7	62	78
3	31	46	15	61	65
4	36	45	9	65	63
5	28	34	6	71	76
6	29	33	4	68	75
7	30	35	5	70	73
8	26	30	4	63	70

Table 1. Comparison of achievement test gains with gains in class grades throughout the year.

Table 2 shows the fall and spring achievement test scores (from the district-wide achievement test) of students who were in Chapter 1 in grades 1-3 in 1982. By 1986, of the 40 students who were originally in the program, 8 are still in Chapter 1. Once a child is exited from Chapter 1 s/he rarely re-enters the program.

Pretest and Posttest NCE Scores
For Students Beginning Grades 1-3 in 1982

Grades 1-3	1982/83		1983/84		1984/85		1985/86	
Student	Pre	Post	Pre	Post	Pre	Post	Pre	Post
George	13	20	17	28	25	36	moved---	
Sean	42	41	43	46	ex-47--48------46---47			
Alice	43	49	ex-46---47-----45---46-----47---44					
Theresa	35	38	34	39	35	47	ex-42---40	
John C.	20	27	22	28	27	33	32	38
Travis	35	42	41	47	ex-45---47-----43---41			
Andrew	38	36	43	44	ex-42-----moved--------			
Felicia	21	28	moved----------					
Carole	22	26	24	30	31	34	32	37
Stephanie	26	31	30	34	moved----------			
Maria G.	19	30	26	35	30	41	ex-40---41	
Joel*	29	40	41	48	ex-50---53-----51---55			
Amanda	40	moved----------						
Trevor	25	24	27	36	34	40	38	43
Annie	23	30	28	33	31	35	30	38
Rhoda	18	26	23	39	40	49	ex-45---48	
Steven	22	25	22	26	25	28	21	23
Michael	34	41	40	46	ex-moved----------			
Randy	23	27	moved----------					
Jamie	39	38	36	44	ex-41---40-----38---41			
Maria L.	41	43	41	45	ex-41---44-----39---42			
Beth	43	48	ex-46---47-----43---45-----40---41					
Robbie	35	43	40	47	ex-50---51-----48---47			
Kelly	28	35	32	39	38	39	42	ex41
Christie Ann	15	28	25	moved----------				
James N.	17	23	20	31	28	34	moved---	
Gordon	20	27	moved----------					
John P.	38	42	41	47	ex-46---45-----42---44			
Juanita	25	33	moved----------					
Su Lin	29	26	28	37	38	41	36	39
Hon Lee	22	29	26	34	30	39	43	50
Maria P.	40	43	41	moved----------				
Tiffany Ann	34	33	33	39	37	34	moved---	
Peter*	21	36	28	33	30	31	27	26
Jerrod	18	moved----------						
Kimberly	39	44	41	moved----------				
Cathy	25	39	moved----------					
Angie	38	46	ex-43---49-----47---48-----44---49					
Shannon*	18	40	37	43	ex-39-----36re en34			40
Scott	40	43	42	moved----------				

Table 1. NCE scores across four years for students who began grades 1-3 in 1982. Scores are from the district-wide achievement testing so that there would be a record for students exited from the Chapter 1 program.

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Subgroup Data

Further processing of the data–for the most part very simple procedures--will allow you to examine your program more deeply. By so doing, you could answer questions like:

- Are gains the same for those far below grade level as for those moderately below?

Figure 4 shows that gains are greater for those below the 30th percentile on the pretest, while those at the 30th percentile or above show smaller gains. Note, however, that in most cases it is those that are in the higher group that reach grade level and can be exited from the program. Those who started out below the 30th percentile are not likely to reach grade level in one year.

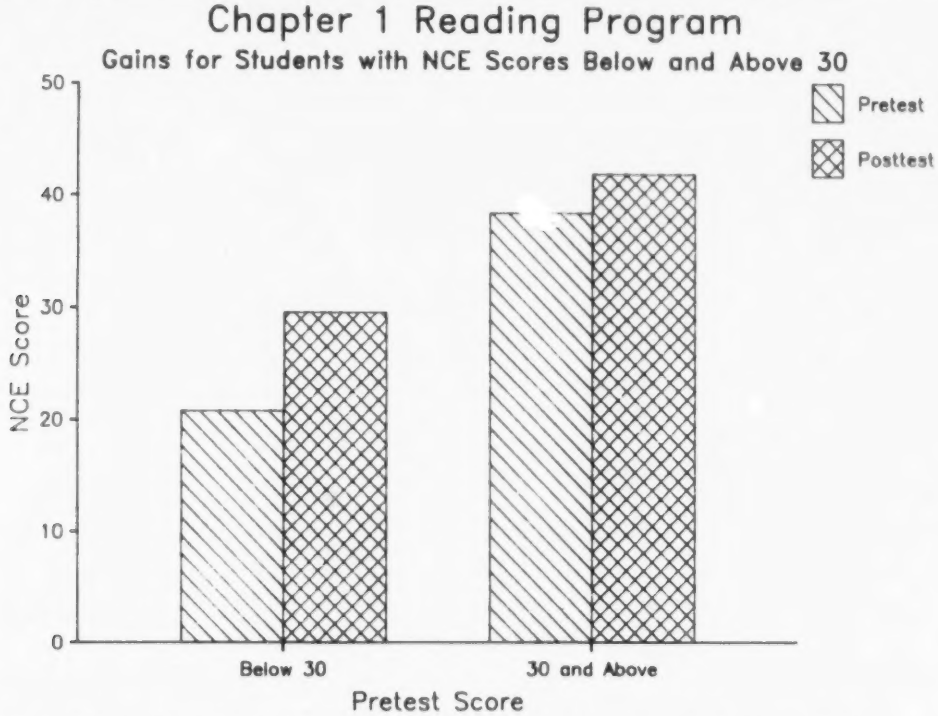

Figure 4. Comparison of NCE gains for students scoring below 30 on the pretest and for students scoring 30 and above in a Chapter 1 reading program.

- How do students who exit the program after one year compare with students who remain in the program for two, three, or four years?

As shown in Figure 5, students who reached the exit criterion for the program after one year had high pretest scores relative to those who remained in the program three or four years. Again it is apparent that those who are closer to grade level when they enter the program have a much better likelihood of reaching the exit criterion. Often, those who remain in the program three years or longer will not show gains as great even as those in Figure 5.

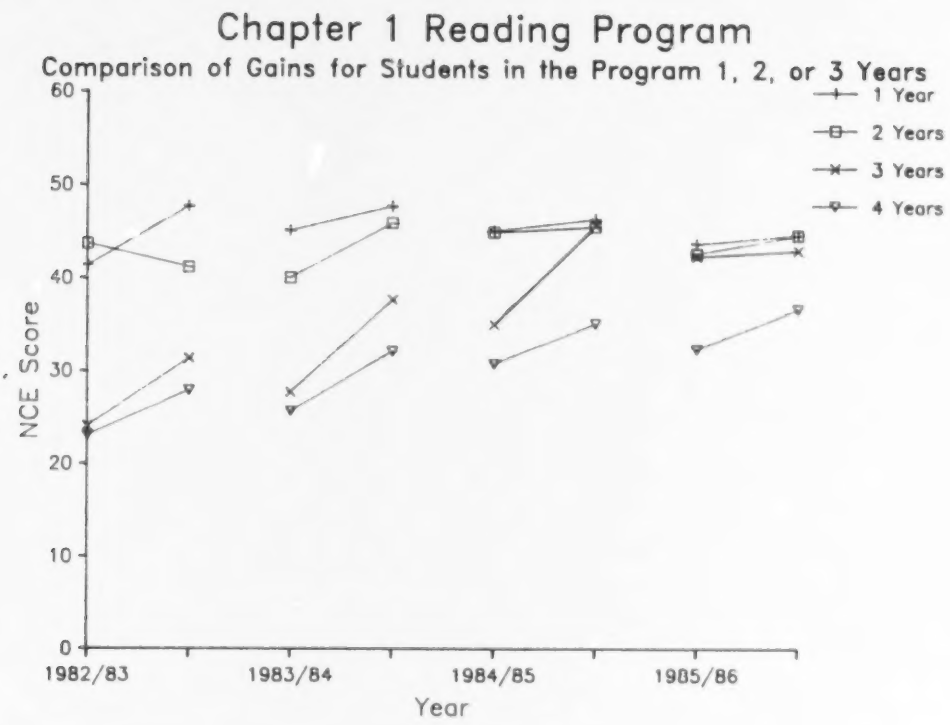

Figure 5. Comparison of fall to spring gains for students who were in a Chapter 1 Reading program for 1 year, 2 years, 3 years, or 4 years.

Individual Data

Analyses for individual students could provide insights into how to deal with students who don't seem to progress for reasons such as differences in learning style. For example, students who show unusual gains or losses, students who show drastic changes in gains or losses over time, or students who have been in the program for three years or more would be good choices for case study analysis.

Sample questions might be:

- Is the student's classroom performance similar to performance on the standardized test?
- Is the student's pattern of progress stable?
- Does the student perform similarly across subject matter areas?

Referring back to Table 2, you'll notice that Peter was one of only 8 students who remained in the program all four years. He started out well below grade level, had good gains the first two years, and then began to decline. An examination of some other indicators of Peter's achievement may give some insight into why he has such a pattern. In Table 3 you will find a composite of the following achievement measures for Peter: 1) NCE scores, 2) expanded standard scores, 3) Peter's first and last six-week grades in his regular class, and 4) scores on criterion tests for the Chapter 1 program.

Case Study Profile for Peter
School Years 1982/83 to 1985/86

	1982/83		1983/84		1984/85		1985/86	
	F*	S**	F	S	F	S	F	S
NCE Scores	22	36	28	33	30	31	27	26
Expanded S.S.	387	523	512	563	562	593	592	613
Class Grade	53 (F)	65 (D)	66 (D)	75 (C-)	78 (C)	68 (D+)	60 (D-)	61 (D-)
Criterion Tests (% Passed)	30	60	70	75	75	78	79	80

*F=Fall **S=Spring

Table 3. Comparison of different measures of achievement for a student in Chapter 1 reading.

Peter was in second grade in 1982-83. Though the NCE scores show an overall drop in achievement from grade 2 to grade 5, the expanded standard scores--scores that indicate Peter's growth over time rather than how he compares with his classmates--show that his growth leveled off somewhat when he reached the end of third grade. From that point his growth continues to be very gradual. His grades in the regular school program follow the same pattern as the NCE scores, but according to the criterion tests for Chapter 1, he is making good progress. What could be causing this pattern? In the reading curriculum, it is in the third grade that the emphasis shifts from the very mechanical reading skills of decoding, phonics, and learning sight words to an emphasis on comprehension. Peter was making progress with the mechanics of reading, but he apparently has not been able to generalize from the mechanics of reading to reading for comprehension. In the Chapter 1 program, he continues to receive remedial help with mechanics, but little time is spent on helping Peter learn to use those skills to help him function at the same level as his classmates in the regular classroom setting.

Other students who would be good candidates for case study analysis (referring again to Table 2) are Joel and Shannon. Joel shows phenomenal growth in this four year period. Even when he is exited from the Chapter 1 program, he continues to show higher achievement scores. Perhaps we could learn something by studying Joel that would help to duplicate his pattern in other students. Shannon, on the other hand, shows good growth as long as she receives the extra help from Chapter 1, but when she is exited from the program her achievement scores decline to the point that she must re-enter the program. Studying Shannon may provide help in avoiding a similar pattern in other students.

Summary

As was mentioned earlier, the examples in this guide are meant only to stimulate you to think of ways of using *your* data to answer *your* questions. They are not meant to be copied exactly. It takes some creativity and insight to determine what questions you should address and what data you need to answer them. Make it a matter of thought and group discussion. Once you have completed those steps and have assembled your data, you are ready to analyze it, interpret your findings, and report them. This information can then be used in setting goals and determining what improvements need to be made in your program.

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